

REMARKS

Claims 1-3, 5, 6, 10-14, 16-19 and 21-25 are now pending in the present application. Claims 1-3, 10, 14, 16, 17 and 19 have been amended, claims 4, 7-9, 15 and 20 have been canceled and claims 22-25 have been added. Reconsideration of this application, as amended, is respectfully requested.

Election/Restriction

Applicants note with appreciation that the Examiner has withdrawn the Restriction Requirement of October 5, 2004 and has provided an examination of all of the claims pending in the present application.

Rejection Under 35 U.S.C. § 112

Claims 2, 3, 5, 6, 8, 9, 12, 13 and 17-19 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

As the Examiner will note, claims 8 and 9 have been canceled without prejudice to or disclaimer of the subject matter contained therein. Accordingly, the Examiner's rejection under 35 U.S.C. § 112, second paragraph has been rendered moot with regard to these claims.

In addition, claims 2, 17 and 19 have been amended in order to address the specific deficiencies pointed out by the Examiner. Applicants respectfully submit that claims 2, 3, 5, 6, 12, 13 and 17-19 are definite and clear. Accordingly, reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. § 112, second paragraph are respectfully requested.

Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1, 7, 16 and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hosaka, USPN 4,976,239. Claims 1-6, 11-14, 16-19 and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Iwamoto, USPN 5,230,318. Claims 11, 15 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosaka in view of Iwamoto. These rejections respectfully traversed.

At the outset, it is respectfully pointed out that claims 4, 7, 15 and 20 have been canceled without prejudice to or disclaimer of the subject matter contained therein. Accordingly, the Examiner's rejections under 35 U.S.C. §§ 102 and 103 have been rendered moot with regard to these claims.

With regard to independent claims 1 and 16, these claims have been amended to include the subject matter of dependent claims 7 and 20, respectively. It should also be noted that the subject matter of claim 7 is the same as the subject matter previously presented in claims 8 and 9. In view of this, dependent claims 2 and 3 now have the same scope as previously presented dependent claims 8 and 9 which were indicated by the

Examiner as being directed to allowable subject matter. In addition, claims 17, 18 and 19, which are directed to the method of the present invention are of a similar scope as objected to claims 8, 9 and 10, respectively. Therefore, dependent claims 2, 3, 17, 18 and 19 should be directed to allowable subject matter. Furthermore, dependent claims 5, 6, 12 and 13 should also be in condition for allowance due to their respective dependence upon dependent claims 2 and 3, as well as due to the additional recitations in these claims. Finally, claim 14 should be allowable due to its dependence on claim 10, which has been rewritten in independent form.

In view of the above, the only claims that remain in the present application which are not directed to subject matter considered by the Examiner as being allowable are claims 1, 11, 16 and 21. In view of this, the following comments will be directed to these claims of the present application.

As mentioned above, independent claims 1 and 16 have been amended to include the subject matter of dependent claims 7 and 20, respectively. In view of this, independent claim 1 is directed to a fuel injection control system for an internal combustion engine, wherein a combination of elements are recited including "means for detecting a throttle opening θ_{TH} ," "a TH map in which said fuel injection quantity has been registered with the engine speed NE and the throttle opening θ_{TH} as parameters" and "wherein said fuel injection quantity is determined on the basis of said TH map."

With regard to independent claim 16, this claim is directed to a fuel injection method for an internal combustion engine, wherein a combination of elements are recited including “detecting a throttle opening θ_{TH} ,” “providing a TH map in which said fuel injection quantity has been registered with the engine speed NE and the throttle opening θ_{TH} as parameters” and “determining said fuel injection quantity on the basis of said TH map.” Applicants respectfully submit that the references relied on by the Examiner fail to teach or suggest the present invention as recited in independent claims 1 and 16.

It should be noted that the above amendments to independent claims 1 and 16 should define the present invention over the Iwamoto reference relied on by the Examiner, since claims 1 and 16 have been amended to include the subject matter of dependent claims 7 and 20, respectively. In the Examiner’s Office Action, the Examiner did not reject claim 7 and 20 in view of the Iwamoto reference. In view of this, the Examiner’s rejection with regard to Iwamoto has been rendered moot. Accordingly, the following comments will be directed to the Hosaka reference relied on by the Examiner, and in particular, the portion of the Examiner’s rejection that corresponds to the subject matter previously recited in independent claim 7 and 20.

Referring to the Examiner’s Office Action, the Examiner states “a TH map (note that the control unit 1000 comprises a microcomputer and controls a fuel injection system, see col. 11, lines 14-16, and that [the] microcomputer includes the stored data which is interpreted as a TH map) in which said fuel injection quantity has been registered with the

engine speed and the throttle opening as parameters, wherein said fuel injection quantity is determined on the basis of said TH map.” Applicants respectfully submit that the Hosaka reference fails to disclose that the fuel injection quantity is determined on the basis of a TH map and therefore the Hosaka reference fails to anticipate independent claims 1 and 16 of the present invention. Referring to col. 11, lines 14-16 of Hosaka, the Examiner is correct that the control unit 1000 comprises a microcomputer and controls a fuel injection system. However, the mere fact that the control unit includes a microcomputer does not teach or suggest that a TH map is used to determine the fuel injection quantity as recited in independent claims 1 and 16 of the present invention. For example, the microcomputer may use an algorithm in order to determine the fuel injection quantity. In any event, since the Hosaka reference fails to disclose the use of a TH map and since the Examiner has provided no suggestion of using a TH map in the Hosaka reference or in the prior art, Applicants respectfully submit that the Hosaka reference fails to anticipate independent claims 1 and 16 of the present invention and therefore the Examiner’s rejection under 35 U.S.C. § 102 is improper and should be withdrawn.

With regard to dependent claims 11 and 21, Applicants respectfully submit that these claims are allowable due to their respective dependence upon independent claims 1 and 16, as well as due to the additional recitations in these claims.

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-3, 5, 6, 11-14, 16-19 and 21 clearly define the present invention over the

references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Allowable Subject Matter and Additional Claims

The Examiner has indicated that claims 8-10 are directed to allowable subject matter. As the Examiner will note, independent claim 10 has been rewritten in independent form to include all of the subject matter of original independent claims 1 and 4. In view of this, independent claim 10 and claim 14 dependent therefrom should be in condition for allowance.

With regard to claims 8 and 9, these claims have been canceled, since the subject matter of claims 8 and 9 have been added to independent claim 1. It should be noted that claims 2 and 3 are now directed to the exact subject matter previously present in dependent claims 8 and 9. Accordingly, claims 2 and 3 and claims 5, 6, 12 and 13 dependent therefrom should be in condition for allowance.

With regard to additional claims 22-25, these claims have been added for the Examiner's consideration. Applicants respectfully submit that these claims are allowable due to their dependence upon allowable independent claim 16, as well as due to the additional recitations in these claims.

Favorable consideration and allowance of additional claims 22-25 are respectfully requested.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.


It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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